

I claim:

1. A mixture of refrigerants that is a substitute for chlorodifluoromethane, comprising about 30 to 70 weight percent pentafluoroethane; and about 15 to 60 weight percent 1,1,1,2-tetrafluoroethane; and about 0.5 to 8 weight percent of propylene or propane, or a mixture thereof; and about 0.5 to 8 weight percent dimethyl ether (DME); and about 0 to 15 weight percent 1,1,1,2,3,3,3-heptafluoropropane, with the weight percentages of the components of the mixture being weight percentages of the overall mixture.

2. The mixture of refrigerants of claim 1 wherein pentafluoroethane is present in about 50 weight percent; 1,1,1,2-tetrafluoroethane is present in about 40 weight percent; propylene is present in about 6 weight percent; and dimethyl ether (DME) is present in about 4 weight percent.

3. The mixture of refrigerants of claim 1, wherein pentafluoroethane is present in about 51 weight percent; 1,1,1,2-tetrafluoroethane is present in about 35 weight percent; propylene is present in about 5 weight percent; dimethyl ether (DME) is present in about 4 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 5 weight percent.

4. The mixture of refrigerants of claim 1 wherein pentafluoroethane is present in about 54 weight percent; 1,1,1,2-tetrafluoroethane is present in about 35 weight percent; propane is present in about 1 weight percent; dimethyl ether (DME) is present in about 4 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 5 weight percent.

5. The mixture of refrigerants of claim 1 wherein pentafluoroethane is present in about 54 weight percent; 1,1,1,2-tetrafluoroethane is present in about 42 weight percent; propylene is present in about 2 weight percent; and dimethyl ether (DME) is present in about 2 weight percent.

6. A mixture of refrigerants that is a substitute for R-502 (48.8 weight percent chlorodifluoromethane and 51.2 weight percent chloropentafluoroethane) and R-404A (44 weight percent pentafluoroethane, 52 weight percent 1,1,1-trifluoroethane, and 4 weight percent 1,1,1,2-tetrafluoroethane) refrigerants, comprising about 55 to 93 weight percent pentafluoroethane; and about 5 to 25 weight percent 1,1,1,2-tetrafluoroethane; and about 0.5 to 7 weight percent propane; and about 0.5 to 7 weight percent dimethyl ether (DME); and about 0 to 12 weight percent 1,1,1,2,3,3,3-heptafluoropropane, with the weight percentages of the components of the mixture being weight percentages of the overall mixture.

7. The refrigerant mixture of claim 6, wherein pentafluoroethane is present in about 75 weight percent; 1,1,1,2-tetrafluoroethane is present in about 16 weight percent; propane is present in about 3 weight percent; dimethyl ether (DME) is present in about 2 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 4 weight percent.

8. A mixture of refrigerants that is a substitute for dichlorodifluoromethane, 1,1,1,2-tetrafluoroethane and R-500 (73.8 weight percent dichlorodifluoromethane and 26.2 weight percent 1,1-difluoroethane) refrigerants, comprising about 3 to 20 weight percent pentafluoroethane; and about 55 to 96 weight percent 1,1,1,2-tetrafluoroethane; and about 0.5 to 4 weight percent propane; and about 0.5 to 7 weight percent dimethyl

ether (DME); and about 0 to 12 weight percent 1,1,1,2,3,3,3-heptafluoropropane, with the weight percentages of the components of the mixture being weight percentages of the overall mixture.

9. The mixture of refrigerants of claim 8, wherein pentafluoroethane is present in about 8 weight percent; 1,1,1,2-tetrafluoroethane is present in about 82 weight percent; propane is present in about 1 weight percent; dimethyl ether (DME) is present in about 4 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 5 weight percent.

10. A method for producing refrigeration in a refrigeration system designed for chlorodifluoromethane refrigerant, comprising substituting for said chlorodifluoromethane a mixture of about 30 to 70 weight percent pentafluoroethane and about 15 to 60 weight percent 1,1,1,2-tetrafluoroethane; and about 0.5 to 8 weight percent of propylene or propane, or a mixture thereof; and about 0.5 to 8 weight percent dimethyl ether (DME); and about 0 to 15 weight percent 1,1,1,2,3,3,3-heptafluoropropane, with the weight percentages of the components of the mixture being weight percentages of the overall mixture.

11. The method of claim 10 wherein said substituting step consists of substituting a mixture wherein pentafluoroethane is present in about 50 weight percent; 1,1,1,2-tetrafluoroethane is present in about 40 weight percent; propylene is present in about 6 weight percent; and dimethyl ether (DME) is present in about 4 weight percent.

12. The method of claim 10 wherein said substituting step consists of substituting a mixture wherein pentafluoroethane is present in about 51 weight percent; 1,1,1,2-tetrafluoroethane is present in about 35 weight percent; propylene is present in

about 5 weight percent; dimethyl ether (DME) is present in about 4 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 5 weight percent.

13. The method of claim 10 wherein said substituting step consists of substituting a mixture wherein pentafluoroethane is present in about 54 weight percent; 1,1,1,2-tetrafluoroethane is present in about 35 weight percent; propane is present in about 1 weight percent; dimethyl ether (DME) is present in about 4 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 5 weight percent.

14. The method of claim 10 wherein said substituting step consists of substituting a mixture wherein pentafluoroethane is present in about 54 weight percent; 1,1,1,2-tetrafluoroethane is present in about 42 weight percent; propylene is present in about 2 weight percent; and dimethyl ether (DME) is present in about 2 weight percent.

15. A method for producing refrigeration in a refrigeration system designed for R-502 (48.8 weight percent chlorodifluoromethane and 51.2 weight percent chloropentafluoroethane) refrigerant and R-404A (44 weight percent pentafluoroethane, 52 weight percent 1,1,1-trifluoroethane, and 4 weight percent 1,1,1,2-tetrafluoroethane) refrigerants, comprising substituting for said refrigerants a mixture of about 55 to 93 weight percent pentafluoroethane; and about 5 to 25 weight percent 1,1,1,2-tetrafluoroethane; and about 0.5 to 7 weight percent propane; and about 0.5 to 7 weight percent dimethyl ether (DME); and about 0 to 12 weight percent 1,1,1,2,3,3,3-heptafluoropropane, with the weight percentages of the components of the mixture being weight percentages of the overall mixture.

16. The method of claim 15 wherein said substituting step consists of substituting a mixture wherein pentafluoroethane is present in about 75 weight percent;

1,1,1,2-tetrafluoroethane is present in about 16 weight percent; propane is present in about 3 weight percent; dimethyl ether (DME) is present in about 2 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 4 weight percent.

17. A method for producing refrigeration in a refrigeration system designed for dichlorodifluoromethane, 1,1,1,2-tetrafluoroethane and R-500 (73.8 weight percent dichlorodifluoromethane and 26.2 weight percent 1,1-difluoroethane) refrigerants, comprising substituting for said refrigerants a mixture of about 3 to 20 weight percent pentafluoroethane; and about 55 to 96 weight percent 1,1,1,2-tetrafluoroethane; and about 0.5 to 4 weight percent propane; and about 0.5 to 7 weight percent dimethyl ether (DME); and about 0 to 12 weight percent 1,1,1,2,3,3,3-heptafluoropropane, with the weight percentages of the components of the mixture being weight percentages of the overall mixture.

18. The method of claim 17 wherein said substituting step consists of substituting a mixture wherein pentafluoroethane is present in about 8 weight percent; 1,1,1,2-tetrafluoroethane is present in about 82 weight percent; propane is present in about 1 weight percent; dimethyl ether (DME) is present in about 4 weight percent; and 1,1,1,2,3,3,3-heptafluoropropane is present in about 5 weight percent.